Instructor: Andrea Tamburelli **Time:** MWF 11-11:50pm
Office: Hermann Brown Hall 444 **Classroom:** HBH 423
Email: at52@rice.edu

Office Hours: Monday 4-5:30pm, Friday 4:30-6pm, or by appointment.

Textbook: We will not follow any book in particular. Lecture notes will be provided.
Suggested readings:

- Stillwell, J., *Geometry of surfaces*, 2nd Edition, Springer.
- Greenberg, M.J., *Euclidean and non-Euclidean geometries: development and history*, 4th Edition, W.H. Freeman.
- Anderson J., *Hyperbolic geometry*, 2nd Edition, Springer Undergraduate Mathematics Series.
- Cederberg J.N., *A course in modern geometries*, 2nd Edition, Springer.
- Dillon, M.I., *Geometry through hystory: Euclidean, hyperbolic and projective geometries*, Springer.

Course outline: In this course we will study the development of modern geometry: starting from the Euclidean geometry known by ancient Greeks, we will see how new geometries that do not satisfy the fifth postulate on parallel lines were discovered, and describe their main features. Examples include projective geometry, hyperbolic geometry and spherical geometry. A familiarity with linear algebra, calculus and formal mathematical reasoning will be assumed.

Homework: Homework is due every two weeks on **Friday** before lecture. Homework is a key part of the course and no late assignments will be accepted for any reason. Homework is not pledged and you are encouraged to collaborate with other students in the class. However, your solutions must be written up individually.

Grading: Grades will be based on homework and exams as follows:

Homework:	20 %
Midterm:	35 %
Final exam:	45 %

Important dates: First day of classes: January 7
Midterm: February 28
Last day of classes: April 19
Final: TBA

Warning! It is the policy of the Mathematics Department that no final may be given early to accomodate student travel plans. If you make travel plans that later turn out to conflict with the scheduled exam, then it is your responsability to either reschedule your travel plans or take a zero in the final.

Disability Support: If you have any documented disability that requires academic adjustments or accomodations, please speak with me during the first week of class. All discussions will remain confidential. Students with disabilities will also need to contact Disability Support Services in the Allen Center.

Online sources: The service *Canvas* will be used for this course. Announcements, coursework, etc. will be posted there.